Sierra
DENTAL PRODUCTS LLC

USER MANUAL/Installation Instructions

TV-22 with 12 gallon VAS-Tank & Low Voltage Controller

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800-240-5677 FAX 352-513-4801

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CONGRATULATIONS

On the purchase of your Dual TRU-VAC Dry Vacuum System. This state of the art dry vacuum is a very powerful, high volume, efficient system, With the benefit of 2 motors for complete backup recovery. 230 volt motors provides plenty of vacuum on demand while maintaining multiple operatories. Equipped with the Vortex Action Separator Tank (VAS) your dual TRU-VAC dry vacuum system will ensure efficiency, reliability, and savings of up to 200,000 gallons of water usage per year.

CUSTOMER SUPPORT

We will be happy to help you with any questions or concerns you may have about your TRU-VAC SYSTEM.

CONTACT US 24 HOURS A DAY 7 DAYS A WEEK

Sierra Dental Products LLC
1931 W. Gulf to Lake Hwy
Lecanto, FL 34461

Call us	1-800-240-5677	TOLL FREE
Karen Bennett	(352)527-1975	ADMINISTRATOR
Chuck Bennett	(603)897-5042	OPERATIONS MANAGER
Dave Rolerad	(603)493-3635	DIRECTOR OF QUALITY
Matthew Ball	(352)208-7317	TECH SUPPORT MANAGER
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Email us
Sierradentalproducts@outlook.com

Visit us on the web
www.dentalvacuums.com

https://www.facebook.com/sierradentalpumps

SIERRA DENTAL PRODUCTS LLC WARRANTY POLICY

The warranty for the TRU VAC Dry Vacuum System is **limited** to the original purchaser of the unit. Sierra Dental Products is only obligated under this warranty to the repair or replacement of defective parts or materials. The issue(s) must be reported to Sierra Dental Products within the valid warranty period.

Sierra Dental Products will examine the product to determine if the parts are defective. Products that have been abused, neglected, or damaged by being improperly installed are not covered by this warranty. Refer to your User Manual for proper installation, operation, and maintenance. Work performed on the unit by any unauthorized service agents will void this warranty unless otherwise stated by Sierra Dental Products in writing. Sierra Dental Products is not liable for direct or indirect damages or loss of any nature, in connection with this equipment.

Warranty Period
Warranty is valid only with the return of the warranty card within 30 days of purchase. Warranty period is 10 years from the date of purchase.

Warranty Service and Return Policy
To obtain warranty service, the product must be returned to Sierra Dental Products for examination at the purchaser's expense. Sierra will require proof of all scheduled maintenance as detailed in the User Manual. All returns must be authorized and a return material authorization number (RMA #) must be obtained from Sierra Dental Products. Returned units must be properly packaged for shipping. We are not responsible for shipping damages, shipping charges, or dealer labor. Sierra Dental Products will, at their discretion, repair or replace defective parts**. Returns are subject to a 25% re-stocking fee at Sierra's discretion.**

SAFETY

Use of the TRU-VAC not in compliance with the instructions specified in this manual may result in permanent failure of the unit.

WARNING:

To prevent fire or electrical shock, do not expose this unit to rain, moisture, excessive heat or improper ventilation.

ATTENTION USERS:

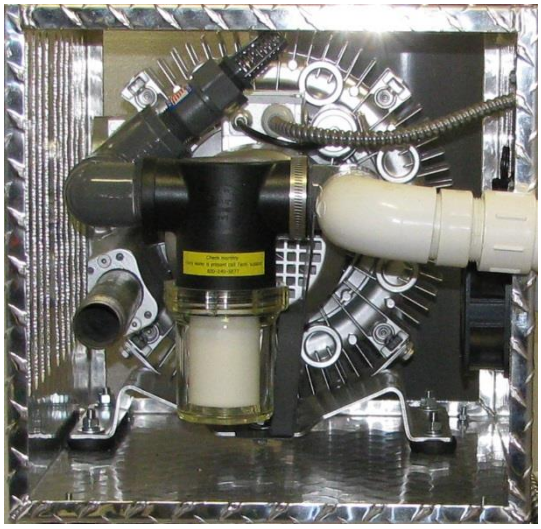
Alerts users of important operating and maintenance instructions. Read carefully to avoid any problems

Warns users of a potentially hot surface, and a danger of burns

Warns users that uninsulated voltage is present and can cause electric shock

SUB ASSEMBLIES

Low Voltage Controller



Motor Assembly

Vortex Action Separator (VAS) TANK

Motors, tanks and controllers may be ordered separately.

SPECIFICATIONS

SITE REQUIREMENTS

ELECTRICAL 230 & 115 VOLTS	SINGLE (-TV-12)	DUAL (-TV-22)
Maximum Circuit Breaker Rating	15 amp	15 amp (Qty 2)
Minimum Wire Size	14 gauge	Refer to Certified Electrician
PLUMBING	**SINGLE (-TV-12)**	**DUAL (-TV-22)**
Minimum Exhaust Vent Pipe	Minimum 1 ¼" steel pipe (DO NOT USE ANY 90 DEGREE ELBOWS)	Minimum 1 ¼" steel pipe (DO NOT USE ANY 90 DEGREE ELBOWS)
Minimum Drain Line	1 ½" flex pipe or 1 ½" Sched. 40 PVC	1 ½" flex pipe or 1 ½" Sched. 40 PVC

1 ½" Schedule 40 PVC is recommended for main feed (SUCTION) lines running to operatories from the TRU-VAC.

PRODUCT SPECIFICATIONS

Electrical	TV-22
Voltage	230 V-AC
Operating Load	10 Amps x2
Startup Load	14 Amps x2
Frequency	50-60 Hz
Poles	2
Phase	Single
Hp/Kw	2.3/1.75 x2
Environmental conditions	**TV-22**
Max Operating Temp.	214°f (101°c)
*Ambient Room Temp.	40-104°f (5-40°c)
Relative Humidity	90% (No Condensation)

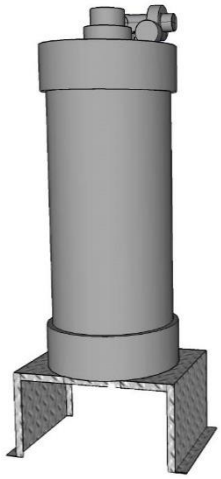
*Maintaining ambient room temperature is important, failure to do so will void warranty.

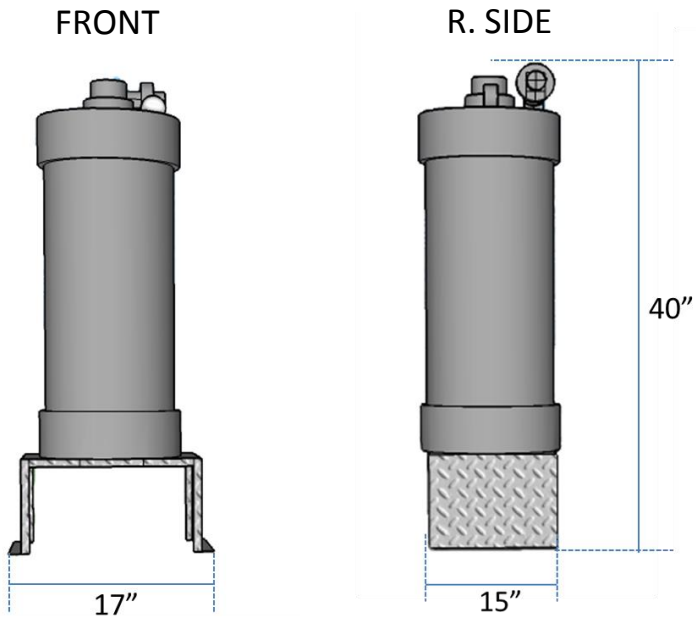
Flammable anesthetic mixtures should not be located anywhere around this unit.

Contact Sierra for recommendations regarding ambient temp.

TANK SPECIFICATIONS

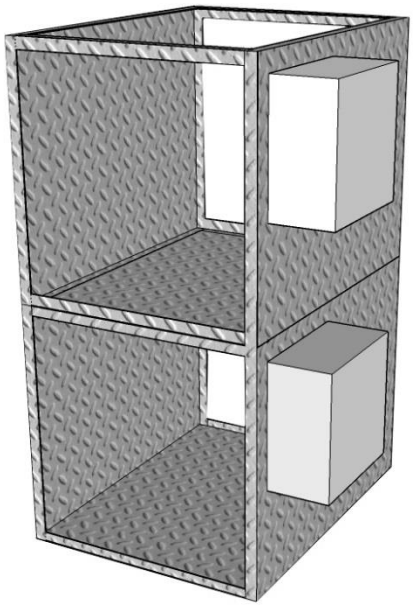
TANK	Weight	Height	Width	Depth	Capacity
V.A.S	43 lbs.	40”	17”	15”	12 Gal.

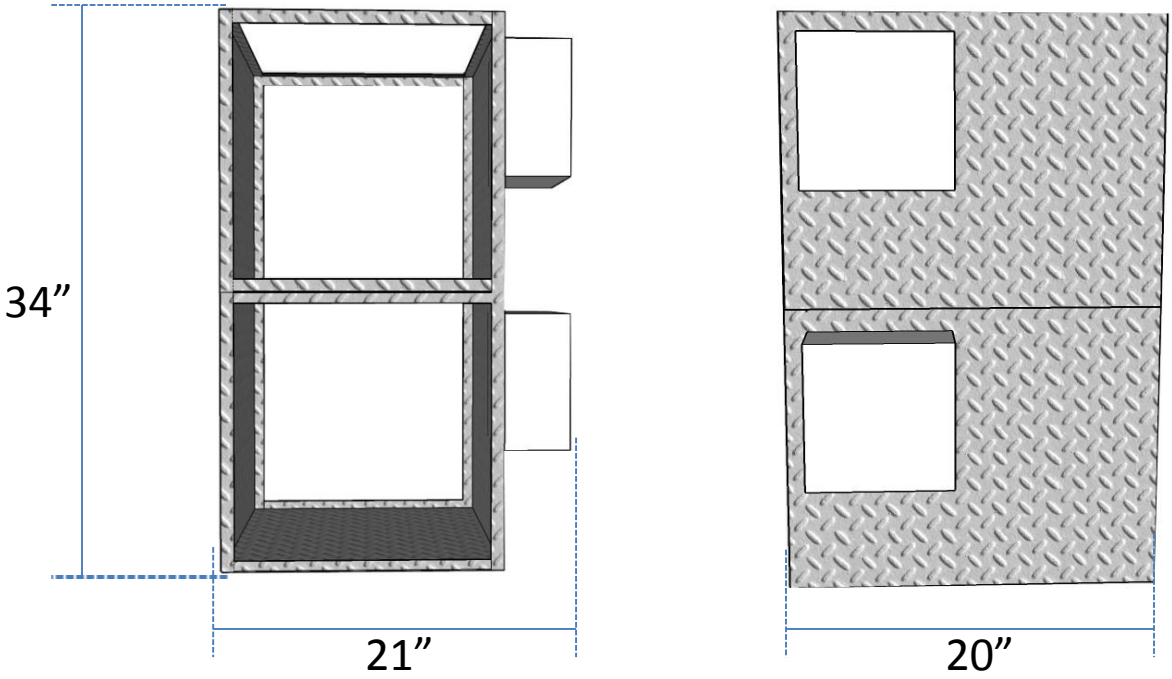




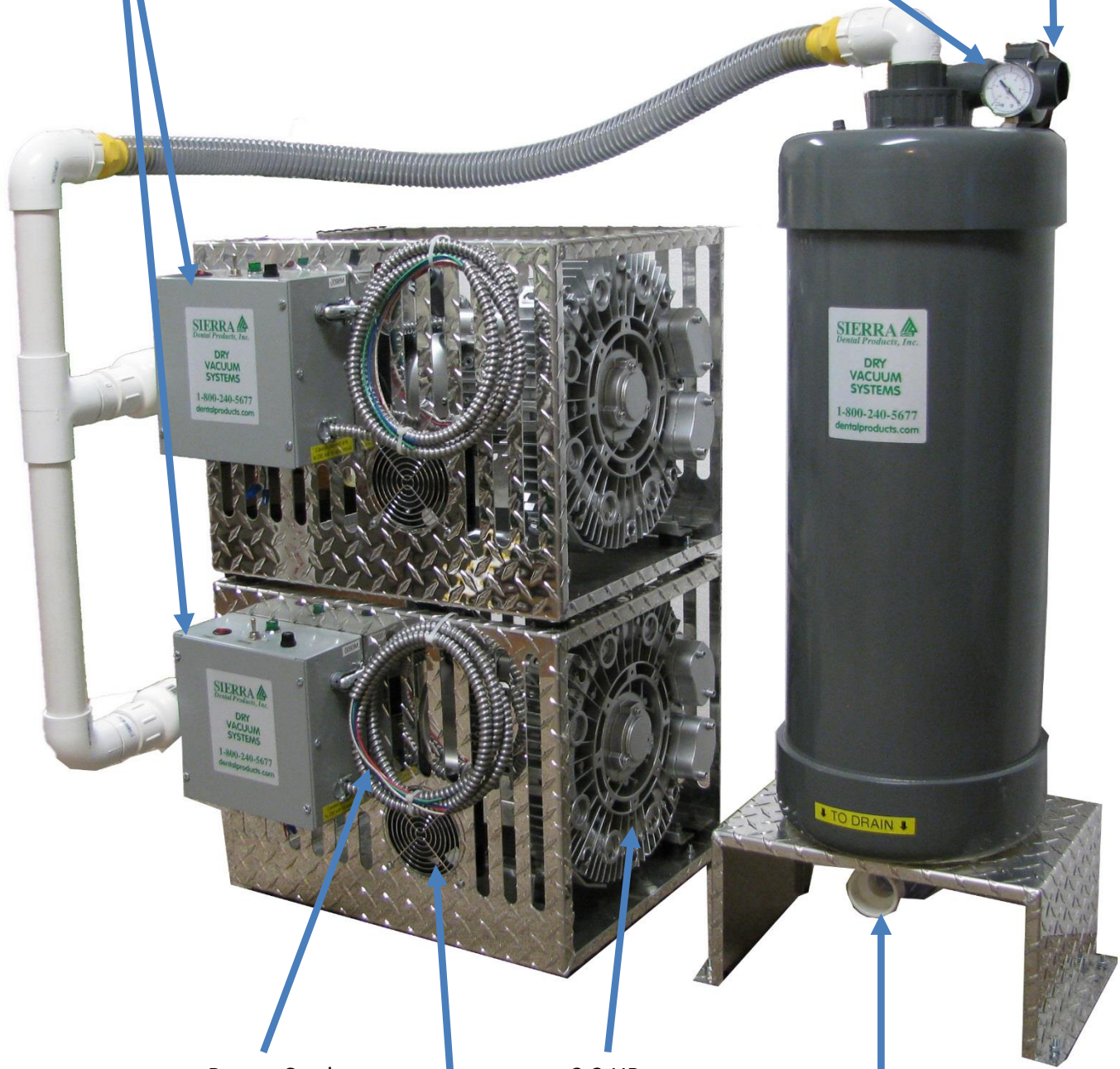
CHASSIS SPECIFICATIONS

Chassis	Weight	Height	Width	Depth
2015	188lbs	34”	21”	20”





SYSTEM LAYOUT TV-22



INSTALLATION

TV-22

Your mechanical room is like the heart of your practice,
Consider these recommendation to maintain a HEALTHY HEART!

Before installing the TV-22

-Ensure a clean, dust free environment.
-Ensure that your mechanical room has sufficient ventilation. The use of exhaust fans are key in maintaining **ambient temp.** When using exhaust fans, you cannot pull hot air out of a room without providing new air. This "new" air can come from another room or an outside area, although air filters will be necessary to prevent dust & debris from entering your mechanical room.
-Also consider the use of climate control. Any way to reduce/remove heat from the room will ensure correct operating conditions.

ALL PLUMBING & ELECTRICAL MUST BE UP TO STANDARDS OF LOCAL CODES.

Mount your motor assemblies on top of each other with the (VAS) tank beside it. (AS SEEN BELOW)

*CONTACT SIERRA IF YOU HAVE ANY DIFFICULTY OF CONCERNS REGARDING INSTALLATION

The VAS tank can be installed in an alternate area if necessary

CONT. INSTALLATION TV-22

1. Find a location that fits the required site specification.
2. Wherever you plan to mount your motor assemblies, be sure that 230 volt power source is readily available.
3. Place your stack your motor assemblies on the ground, with your (VAS) tank beside
4. Run PVC/Flex pipe from the top of the tank(Fig.1) into the motor inlet. (Fig.2) See illustration for plumbing on the following page.

***If special configuration is necessary contact Sierra for proper setup recommendation.**

*NOTE required hoses, clamps, and adapters provided ALTHOUGH SCHEDULE 40 PVC MAY BE NEEDED

FIG.1

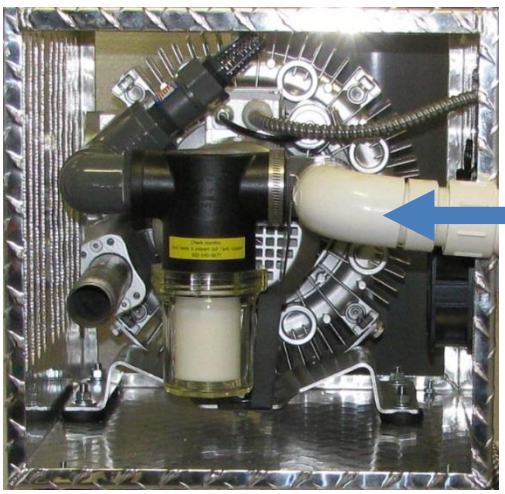
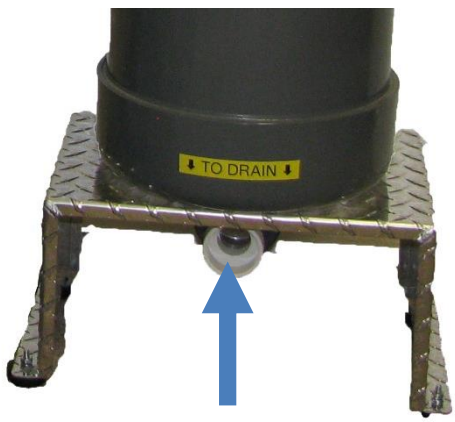


FIG. 2



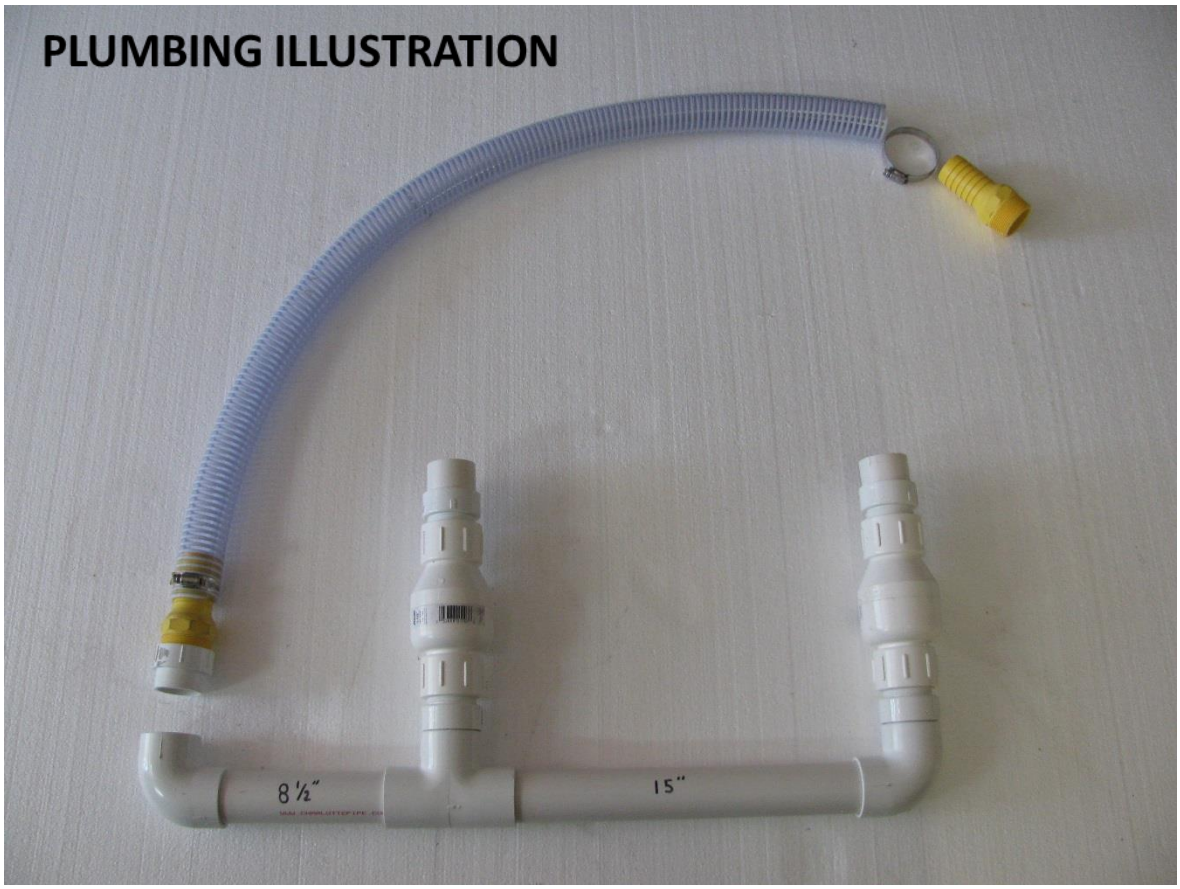
Connect a proper drain to the bottom of the tank and route this to the sewer. Assure that the tank drain is at a higher elevation than the sewer inlet to allow the tank to drain properly. (1 ½" Schedule 40 PVC is recommended)

CONT. INSTALLATION –TV-22

(REFER TO THE PLUMBING ILLUSTRATION)

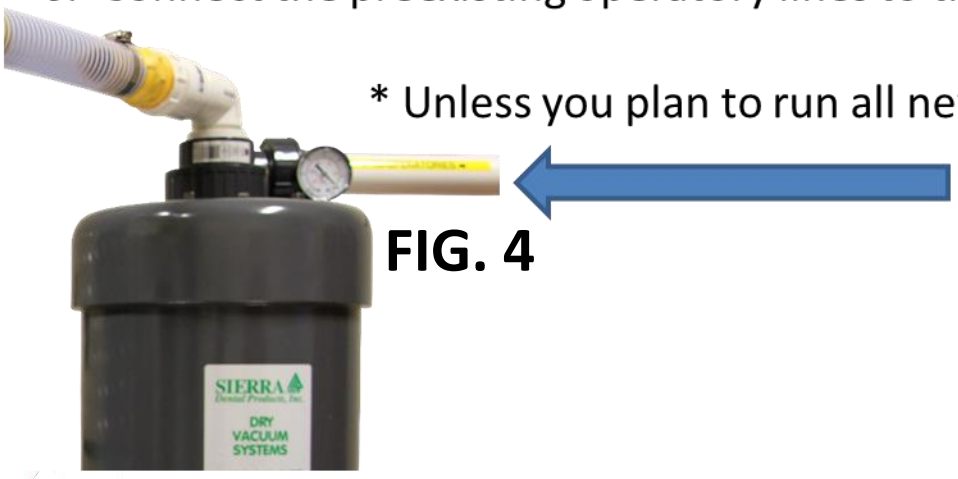
5.. This will be the connection between your motors and your (VAS)tank.

Use this image below as a guide to assemble the plumbing provided.



CONT. INSTALLATION TV-22

6. Connect the preexisting operatory lines to the tank. (Fig. 4)



* Unless you plan to run all new lines

FIG. 4

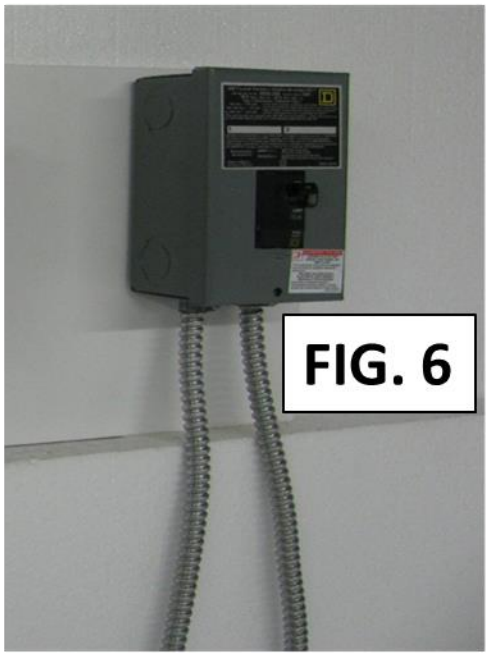
7. We provide a 1 ¼" steel pipe exhaust. (Fig. 5) route your exhaust with this same material or a high heat flexible pipe to and outside vent.

DO NOT USE A 90° ANGLE.
45° ANGLES ARE RECOMMENDED

FIG. 5

8. Routing the exhaust to an outside vent is very important, this reduces the heat significantly. Also this will ensure that any odor will leave the building. Wherever the exhaust leaves the building assure that outside elements such as rain/snow & or foreign debris cannot make its way into the exhaust. This could potentially cause harm to the motor. The easier the exhaust can flow out of the motor with minimum restriction the cooler the system will run. This will prolong the life of the motor. Keep this in mind when routing the exhaust, excessive length and multiple turns will create more restriction.

CONT. INSTALLATION TV-22



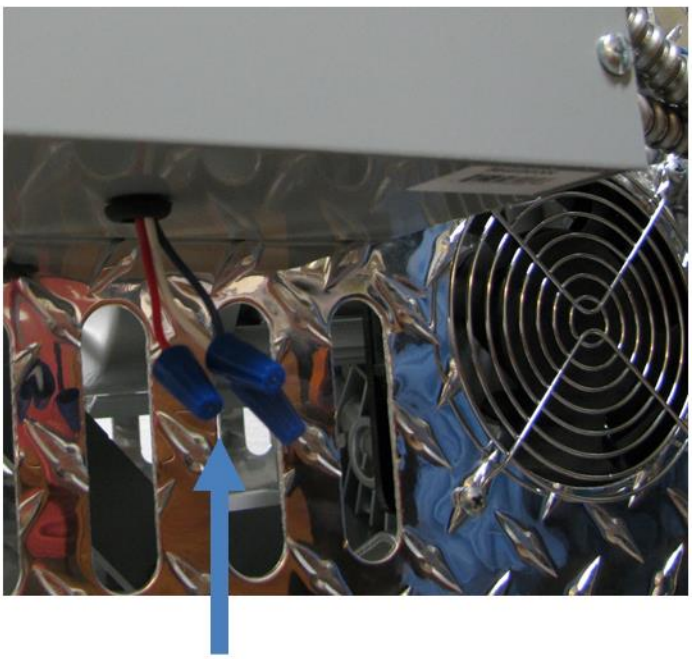
9. Route and connect the motor assembly power cord to a 230 colt source maximum circuit breaker rating: 15 AMPS per motor. (Figure 6) *BOX SUPPLIED BY CUSTOMER

BLUE WIRE- one leg of 230
RED WIRE- one leg of 230
GREEN WIRE- ground
WHITE WIRE- ground

*** Connections are to be made by a certified electrician**

On the underside of the low voltage controller you will find three remote wires. Red, white & blue. Route these wires to a location were you will be mounting a remote switch to control the system.

Red- 28 Volt power
Blue- Return
White- Illumination (Lamp)



REMOTE WIRES

OPERATION

Use the red rocker switch to turn the controller on & off.

Turn the toggle switch to the up/on position to turn the pump on. Or to down on position is used to control the pump on/off with a remote switch

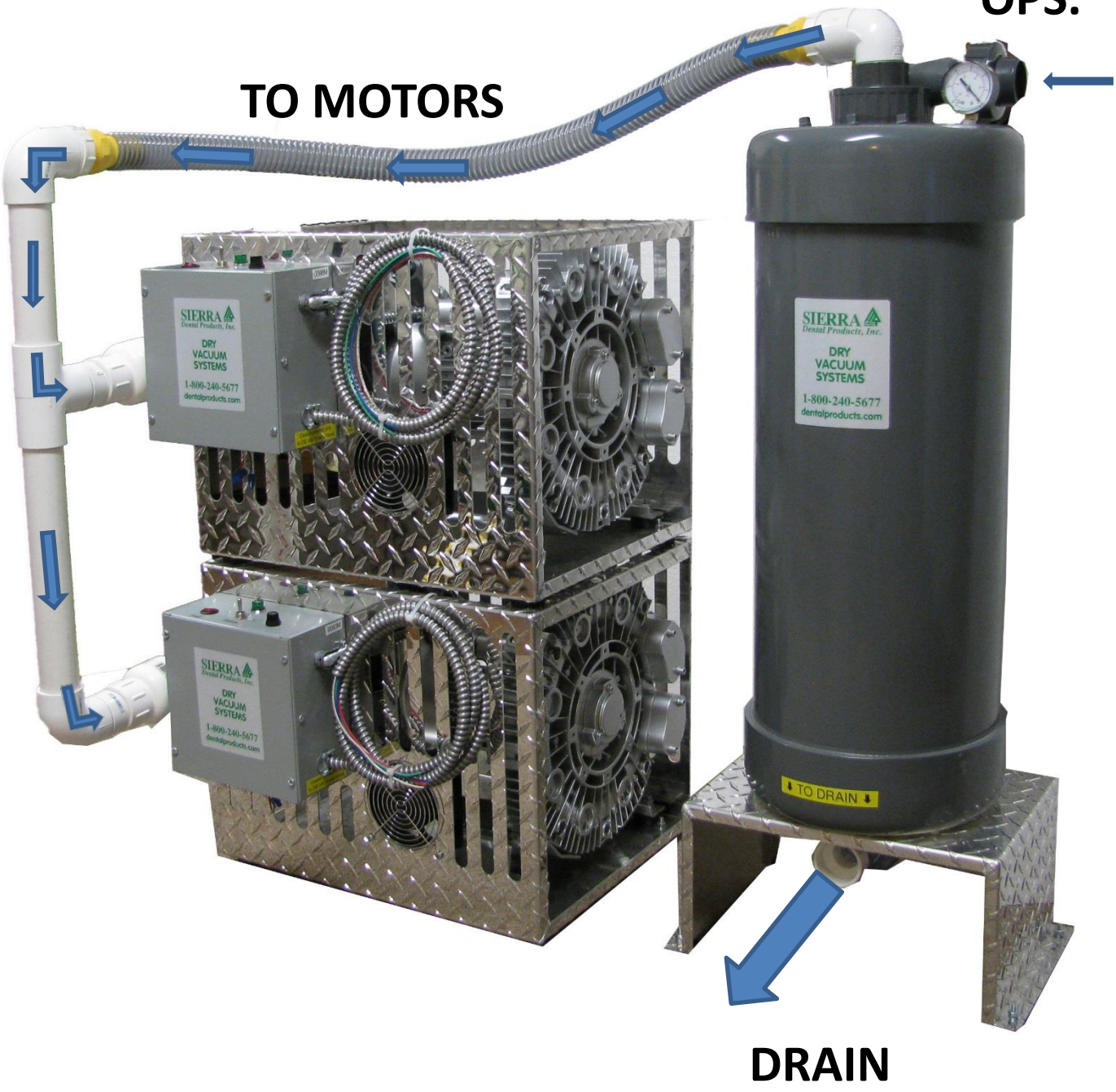
If the system will not turn on, **Always** check this fuse first. Only replace with 2.5 amp fuse.

CONT. OPERATION

For use with an alternate remote switch ensure that the red rocker switch is on, and the toggle switch is in the down/remote position, this will allow you to control the system with a remote switch

Sierra DENTAL PRODUCTS LLC

PLUMBING FLOW DIAGRAM



MAINTENANCE

FILTER

*ALWAYS make sure that your filter is WHITE & CLEAN, a monthly check is **NECCESARY**. Once a month check filter bowl for presence of liquids, contact tech support if liquids are present. These micron filters are not reusable, do not attempt to clean or alter the filter in any way. Dirty filters should always be replaced with new ones every 3 months. When checking or replacing the filter be sure not to reinstall the bowl without the O ring properly seated. **Filters can be purchased thru Sierra Dental Products LLC approved dealers. Contact 800-240-5677 for approved dealers in your area.**

Your TRU-VAC should be installed in a clean environment, free of dust & debris.

DO NOT ATTEMPT TO ADJUST THE VACUUM RELIEF VALVE
The vacuum relief valve is a preset part, Sierra Dental Products LLC has set the standard for this valve according to many variables. Adjusting the vacuum relief valve, will void your warranty.

Every 3 months check to ensure that your cooling fan is still running.(If it is not on while the motor is running contact us)

Every 3 months check your drain connection on the bottom of the (VAS) tank to ensure that it is dry and not leaking.

Every 3 months inspect unit for dust & debris build up around the fans & on the motor. Remove this build up to ensure sufficient airflow for cooling purposes.

Every 3 months **REPLACE** the inlet filter with a **NEW** filter.
Every 3 months inspect the exhaust wherever it leaves the building/mechanical room to ensure sufficient airflow. Remove any obstruction that may have occurred.

Vacuum line cleaning

At a minimum, all of the lines used that day, should be cleaned with a non foaming evacuation system cleaner at the end of everyday.

Sierra Dental Products highly recommends BIO PURE -Complete evacuation system cleaner.

Perform scheduled maintenance as per Sierra Dental Products LLC recommendation. Failure to do so will result in a voided warranty.

TROUBLESHOOTING

PROBLEM	POSSIBLE CAUSE	POSSIBLE SOLUTIONS
NO SUCTION	a. Pump not turned on. b. Pump not running. c. (VAS) tank is full. d. Drain check valve is clogged e. Clogged drain f. Kinked or collapsed suction hose	a. Turn pump on b. Contact Sierra Dental Products LLC c. Shut unit off for 20 seconds and turn it back on d. Contact Sierra Dental Products LLC e. Call your Local Plumber f. Call Sierra Dental Products LLC
Poor Or Low Suction	a. Restricted air exhaust b. Restricted air suction	a. Ensure that exhaust is ran according to installation procedure, Call Sierra Dental Products LLC b. Dirty Filter, Contact Sierra Dental Products LLC
Pump Does Not Run	*a.* *230 Volt* Circuit breaker is OFF b. Remote switch is OFF or not correctly connected c. Electrical Problem	a. Turn the circuit breaker ON b. Make sure your remote is ON, Contact Sierra Dental Products LLC c. Call Sierra Dental Products LLC

Feel free to contact us for any troubleshooting issues.

ACCESSORIES

BIO PURE -Complete evacuation system cleaner. 100% Guaranteed to maintain suction & eliminate trap hand cleaning. This is an all natural proprietary microbial formula designed to eliminate odors & digest organic waste. HIGHLY RECCOMENDED

CHAIRSIDE AMALGAM SEPARATOR
-These filters are designed to collect amalgam before it makes it to the drain. These filters are to be mounted chair side in the operatory on the main line that feeds your HV lines and saliva lines. Multiple fittings included with the product ensures an easy installation process. These filters are a key in preventing contamination of bio hazardous waste in our water systems. These filters can be easily removed, recycled and replaced.

REPLACEMENT FILTERS – available in packs of 3. (Filters are a very important factor with your TRU-VAC.)
A dirty filter can cause loss of vacuum and motor damage. Inspecting and replacing these filters ensures proper maintenance procedures and avoids down time or costly repairs.